

Appendix E.

Table E-1

Top countries by GDP	Crisis date	Credit boom preceding crisis?
Australia	1989	Yes
Brazil	1990	no data
Brazil	1994	no data
Canada	-	n/a
China	1998	Yes
France	2008	Yes
Germany	2008	no
India	1993	no
Indonesia	1997	yes
Italy	2008	yes
Japan	1991	yes
Mexico	1981	no data
Mexico	1994	yes
Netherlands	2008	yes
Norway	1991	yes
Russia	1998	no data
Russia	2008	yes
Saudi Arabia	-	n/a
South Korea	1997	yes
Spain	1977	yes
Spain	2008	yes
Sweden	1991	yes
Sweden	2008	yes
Switzerland	2008	no
Turkey	1982	no data
Turkey	2000	yes
UK	2007	yes
US	1988	yes
US	2007	yes

22 total countries, 27 total crises
 19 have a pre crisis debt buildup
 3 with no pre crisis debt buildup
 5 crises with no private debt data

Appendix E

Table E-2

The results in chart form from our thesis on 18% private debt to GDP growth over 5 years. A financial crisis is either from the list on Appendix H, or if there is a GDP contraction within 5 years of the boom period.

COUNTRIES WITH 150+% PRIVATE DEBT TO GDP before 2000

True Positives, Private debt to GDP > 150%

	Private debt to GDP	Boom years	Financial Crisis
Norway	151%	1986-1990	1991
Sweden	155%	1987-1992	1991
Japan	216%	1987-1991	1991
Korea	170%	1991-1998	1997
Switzerland	188%	1989-1990	GC
Canada	150%	1989-1993	GC

False Positives – booms not followed by crisis

-None

Crisis not preceded by booms, Private debt to GDP > 150%

-None

COUNTRIES WITH 150+% PRIVATE DEBT TO GDP from 2000

True Positives, Private debt to GDP > 150%

	Private debt to GDP	Boom years	Financial Crisis
Norway	158%	2001	GC
UK	192%	2001-2009	2007
US	177%	2002-2008	2007
Netherlands	209%	1999-2003	2008
Spain	220%	1999-2010	2008
Sweden	249%	2000-2002, 2007-2012	2008
Canada	195%	2009-2011	GC
France	150%	2008-2010	GC
Norway	220%	2008-2011	GC

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False Positives, Private debt to GDP > 150%

	Private debt to GDP	Boom years	Financial Crisis
Australia	185%	2000-2009	none
Korea	194%	2008-2011	none

True Negatives, Private debt to GDP > 150%

	Private debt to GDP	Boom years	Financial Crisis
Switzerland	182%	none	2008

At Risk List

	Private debt to GDP	Boom years
China	168%	2009-present

COUNTRIES WITH PRIVATE DEBT TO GDP RATIOS OF 100%-149%

True Positives, Private debt to GDP 100%-149%

	Private debt to GDP	Boom years	Financial Crisis
Spain	102%	1975-1976	1977
US	127%	1986-1988	1988
UK	135%	1982-1992	GC
China	104%	1993	1998
Italy	122%	2001-2010	2008
France	124%	2000-2003	2008
Australia	115%	1982-1990	GC
Netherlands	101%	1975-1982	GC
Canada	124%	1979-1981	GC
France	107%	1991-1992	GC

False Positives, Private debt to GDP 100%-149%

	Private debt to GDP	Boom years	Financial Crisis
China	129%	1999-2003	none
Korea	109%	1980-1986	none
Netherlands	140%	1988-1992	none

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Crisis not preceded by booms, Private debt to GDP 100%-149%

	Private debt to GDP	Boom years	Financial Crisis
Germany	123%	none	2008

Note – there were five instances of crisis among these 22 countries where we had insufficient data to test our prediction hypothesis. (In fact, private debt data is not readily available for many countries prior to the last few decades. And the categories within private debt such as the different types of consumer debt are not well captured in many countries.)

Crises with no private debt data for crisis period

	Crisis year	Private debt to GDP	Credit boom?
Mexico	1981	19.10%	n/a
Turkey	1982	n/a	n/a
Brazil	1990	n/a	n/a
Brazil	1994	63.40%	n/a
Russia	1998	33.30%	n/a

All Private debt data for this study was from BIS, Long series on credit to private non-financial sectors (ratios are author's calculation)